

CLAIMS

I claim:

1. A process for manufacturing a sound insulating structure comprising the steps of:

providing a textile material having interior and exterior sides, a generally non-permeable polymeric layer overlying the exterior side and a backing layer overlying the polymeric layer to form a laminated product;

presenting the laminated product to a forming mold such that the perimeter of the product is retained in a fixed position relative to the mold; and

closing the forming mold under a controlled pressure, heat and time cycle sufficient for expanding the panel to conform it to the mold and to render the laminated product permeable.

2. A laminar assembly of a type having a textile material with interior and exterior surfaces, a non-permeable polymeric layer, overlying the exterior surface, and a backing layer, overlying the non-permeable layer, that are laminated together with the laminated product postformed in a molding apparatus, the improvement characterized by:

the polymeric layer having a post formation permeability of 500 rayls or less as measured by concentric airflow resistance equipment.

3. A vehicle sound insulating structure of a type having a carpet assembly with face and interior surfaces and a polymeric layer overlying the interior surface, and sound insulating material overlying the polymeric layer, the improvement characterized by:

the carpet assembly having a permeability of no more than 500 rayls as measured by concentric airflow resistance equipment.

4. A process for manufacturing a sound insulating structure comprising the steps of:

providing a textile panel having interior and exterior faces, a generally non-permeable polymeric layer overlying the exterior face and a backing layer overlying the polymeric layer;

preheating the panel to a controlled temperature;

positioning the preheated panel in a forming mold such that the perimeter of the panel is retained in a fixed position relative to the mold; and

closing the forming mold with controlled pressure sufficient for expanding the panel to conform it to the mold and to produce a desired permeability through the panel.

5. An assembly of a type having a panel with interior and exterior surfaces, a polymeric layer, overlying the exterior surface, and a backing layer, overlying the polymeric layer, laminated together with the laminate post formed in a molding apparatus, the improvement characterized by:

5 a post formation panel having a permeability of 500 rayls or less as measured by concentric airflow resistance equipment.

6. A vehicle carpet assembly with face and interior surfaces and sound insulating material adjacent the interior surface carpet assembly characterized by:

the carpet assembly having a permeability of 500 rayls or less as measured by concentric airflow resistance equipment.

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